

We claim:

1. An injection needle assembly comprising:
 - a. a hub (15) for mounting the assembly on an injection device, the hub comprising a skirt (16) and a protrusion (14) extending distally therefrom;
 - b. a needle cannula having a cylindrical lumen smaller than or equal to a lumen of a G30 needle cannula, the needle cannula being mounted in the hub and having an injection portion extending through the protrusion, and a membrane piercing portion extending proximally from the hub, wherein the injection portion has a uniform taper over at least a majority of its length and terminates at a skin piercing end and wherein the membrane penetrating portion is cylindrical needle cannula.
2. An injection needle assembly comprising:
 - a. a hub for mounting the assembly on an injection device;
 - b. a needle cannula mounted in the hub, the needle cannula comprised of
 - i. an injection portion extending distally from the hub and terminating in a skin piercing end, the injection portion being uniformly tapered over its entire length
 - ii. a proximal membrane penetrating portion extending proximally from the hub and terminating at a membrane piercing end, the proximal portion being cylindrical and having an inner bore; wherein the bore of the proximal portion and the bore of the injection portion has the same diameter, thereby resulting in a needle cannula wherein the proximal membrane penetrating portion has

greater strength and wherein the injection portion terminates in skin piercing end having a diameter smaller than at any other point on the cannula.

3. An injection needle assembly comprising:

- a. a hub for mounting the assembly on an injection device;
- b. a needle cannula having an injection portion that extends distally from the hub and terminates in a skin piercing end;
- c. a membrane penetrating portion that extends proximally from the hub and terminates in a membrane piercing end;

wherein the cannula is a continuous piece of a single material and wherein the injection portion has a uniform taper over a majority of the length of the injection portion and wherein the uniform taper terminates at the skin piercing end, thereby resulting in the proximal most end of the injection portion having the largest outside diameter of any portion of the injection portion and wherein the entire needle cannula has a uniform cylindrical lumen of constant diameter.

4. The injection needle assembly of claim 3, wherein the needle cannula has an outside diameter of G30 at its membrane penetrating portion and wherein the most proximal portion of the injection portion also has an outside diameter of G30 and wherein the lumen of the entire cannula has an inside diameter of a G30 needle but wherein the outside diameter of the skin piercing end is smaller than G30, thereby creating a needle assembly wherein the membrane piercing portion

- is as strong as a standard G30 needle and whereby the strength of the injection portion, where the bending moment is the greatest, is as strong as a G30 needle.
5. The injection needle assembly of claim 3, wherein the needle cannula has an outside diameter of a standard G28 needle at its membrane penetrating portion and wherein the most proximal portion of the injection portion also has an outside diameter of a standard G28 needle and wherein the lumen of the entire cannula has an inside diameter of a G28 needle but wherein the outside diameter of the skin piercing end is smaller than G28, thereby creating a needle assembly wherein the membrane piercing portion is as strong as a standard G28 needle and whereby the strength of the injection portion, where the bending moment is the greatest, is as strong as a G28 needle.
 6. The injection needle assembly of claim 3, wherein the needle cannula has an outside diameter of a standard G29 needle at its membrane penetrating portion and wherein the most proximal portion of the injection portion also has an outside diameter of a standard G29 needle and wherein the lumen of the entire cannula has an inside diameter of a G29 needle but wherein the outside diameter of the skin piercing end is smaller than G29, thereby creating a needle assembly wherein the membrane piercing portion is as strong as a standard G29 needle and whereby the strength of the injection portion, where the bending moment is the greatest, is as strong as a G29 needle.
 7. The injection needle assembly of claim 3, wherein the needle cannula has an outside diameter of a standard G31 needle at its membrane penetrating portion and wherein the most proximal portion of the injection portion also has an outside

diameter of a standard G31 needle and wherein the lumen of the entire cannula has an inside diameter of a G31 needle but wherein the outside diameter of the skin piercing end is smaller than G31, thereby creating a needle assembly wherein the membrane piercing portion is as strong as a standard G31 needle and whereby the strength of the injection portion, where the bending moment is the greatest, is as strong as a G31 needle.

8. The injection needle assembly of claim 3, wherein the needle cannula has an outside diameter of a standard G32 needle at its membrane penetrating portion and wherein the most proximal portion of the injection portion also has an outside diameter of a standard G32 needle and wherein the lumen of the entire cannula has an inside diameter of a G32 needle but wherein the outside diameter of the skin piercing end is smaller than G32, thereby creating a needle assembly wherein the membrane piercing portion is as strong as a standard G32 needle and whereby the strength of the injection portion, where the bending moment is the greatest, is as strong as a G32 needle.
9. The injection needle assembly of claim 8, wherein the hub further comprises a skirt portion for mounting the assembly to an injection device and a protrusion extending distally therefrom and thru which the needle cannula's injection portion extends.
10. An insulin injection needle comprising:
 - a. a hub for mounting the assembly to an insulin injection pen system; and
 - b. a needle cannula mounted in the hub, the cannula having:

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- i. a skin piercing portion having a uniformly tapered portion of at least a majority of its length and the taper terminating at a skin piercing end smaller than or equal to that of a standard G32 injection needle and
- ii. a uniform cylindrical lumen equal to or greater than a standard G32 needle;
- iii. a membrane piercing portion having an outside diameter equal to a G32 needle; and

wherein the needle has clogging properties identical to that of a standard G31 needle.